

AMENDED IN ASSEMBLY APRIL 17, 2007

CALIFORNIA LEGISLATURE—2007–08 REGULAR SESSION

**ASSEMBLY BILL**

**No. 1613**

---

**Introduced by Assembly Member Blakeslee  
(Coauthors: Assembly Members Adams, Emmerson, Parra, and  
Torrico)**

February 23, 2007

---

An act to add Chapter 8 (commencing with Section 2840) to Part 2 of Division 1 of the Public Utilities Code, relating to energy.

LEGISLATIVE COUNSEL'S DIGEST

AB 1613, as amended, Blakeslee. Energy: Waste Heat and Carbon Emissions Reduction Act.

(1) Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations, as defined. Existing law authorizes the PUC to fix the rates and charges for every public utility, and requires that those rates and charges be just and reasonable. The existing Public Utilities Act requires the PUC to review and adopt a procurement plan for each electrical corporation in accordance with specified elements, incentive mechanisms, and objectives. The act additionally requires the PUC, in consultation with the Independent System Operator, to establish resource adequacy requirements for all load-serving entities, as defined, in accordance with specified objectives.

The existing Warren-Alquist State Energy Resources Conservation and Development Act establishes the State Energy Resources Conservation and Development Commission (Energy Commission) and requires it to undertake a continuing assessment of trends in the consumption of electricity and other forms of energy and to analyze

the social, economic, and environmental consequences of those trends and to collect from electric utilities, gas utilities, and fuel producers and wholesalers and other sources, forecasts of future supplies and consumption of all forms of energy. The PUC and the Energy Commission have jointly adopted an Energy Action Plan II that includes a loading order that describes the priority sequence for actions to address the state's increasing electricity needs, and that identifies energy efficiency and demand response measures as the state's preferred means of meeting growing electricity needs.

This bill would enact the Waste Heat and Carbon Emissions Reduction Act. The bill would provide that it is the policy of the state that the conversion of waste heat to electricity or other useful energy applications ~~be treated as an efficiency measure~~ *the preferred generation measure immediately following renewables* for purposes of the loading order. The bill would state the intent of the Legislature to obtain 5,000 megawatts of new electrical generation by the year 2015 by achieving improved efficiencies utilizing waste heat through combined heat and power systems, to dramatically advance the efficiency of the state's use of natural gas by capturing unused waste heat, ~~and to reduce wasteful consumption of energy through improved residential, commercial, institutional, industrial, and manufacturer utilization of waste heat whenever it is cost effective, technologically feasible, and environmentally beneficial, particularly when this reduces emissions of carbon dioxide and other carbon-based greenhouse gases, and to support and facilitate both customer-owned and utility-owned combined heat and power systems.~~

This bill would require a load-serving entity to purchase, ~~upon terms and at rates that the PUC determines to be just and reasonable, the incidental electricity, as defined, generated by eligible customers, as defined, utilizing distributed generation that employs combined heat and power technology that comply~~ *excess electricity, as defined, delivered by a combined heat and power system, as defined, that complies with the regulations, or interim guidelines, adopted by the Energy Commission, and for a load-serving entity that is an electrical corporation, under the terms, conditions, and prices established by the PUC in a standardized electricity purchase agreement. The bill would require that the existence of the electricity purchase agreement between a combined heat and power generator and the load-serving entity does not result in either an increase or decrease in charges to other ratepayers and customers as compared to other options for additional*

*generation. The bill would require that the terms and rates determined by the PUC result in a statewide reduction in emissions of greenhouse gases compared to generation of electricity from baseload generation, as defined, and peaking generation units from combined heat and power systems compared to the greenhouse gases that would otherwise have been emitted from the separate generation of electricity and thermal energy from combined-cycle natural gas powerplants and conventional thermal energy plants. The bill would additionally require that the rates be time-of-use rates that encourage energy conservation and net generation of electricity during periods of peak system demand, with no separate cost-based time-of-use standby charges prohibits the adoption or maintenance of standby rates or charges for combined heat and power systems unless based upon assumptions that are supported by factual data, and requires that the rates provide additional incentives to encourage energy conservation and net generation of electricity in those areas of the transmission grid that are experiencing transmission constraints or congestion. The bill would require the PUC to establish for each electrical corporation, a pay-as-you-save program, meeting certain goals, for eligible customers, as defined, to finance all of the upfront costs for the purchase and installation of combined heat and power systems. The bill would require the PUC, in approving an electrical corporation's procurement plan, to require the plan to incorporate combined heat and power solutions to the maximum degree that is cost effective, technologically feasible, and environmentally beneficial, particularly as it pertains to reducing emissions of carbon dioxide and other greenhouse gases.*

*This bill would require the Energy Commission, by January 1, 2010 February 1, 2008, to adopt regulations for various applications of combined heat and power systems that reduce waste energy, that ensure that a system is properly sized for its intended application, meets minimum efficiency standards, is cost effective, technologically feasible, and environmentally beneficial. The bill would authorize the Energy Commission to adopt temporary guidelines for combined heat and power systems prior to January 1, 2010 February 1, 2008.*

(2) The existing California Global Warming Solutions Act of 2006, requires the State Air Resources Board (state board) to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with the reporting and verification program, as specified, and requires the state board to adopt a statewide greenhouse gas emissions limit equivalent to the

statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. The act requires the state board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions and authorizes the state board to adopt market-based compliance mechanisms, as defined, meeting specified requirements.

This bill would state the intent of the Legislature to establish for each electrical corporation, a variable rate program that is applicable to eligible customers with a combined heat and power system and who utilize a plug-in hybrid vehicle, that will encourage charging plug-in hybrid vehicles during nonpeak periods of electricity usage, and that results in an overall reduction of greenhouse gases and other air pollutants emitted from both electricity generation and mobile sources.

(3) Existing law permits a private energy producer, as defined, to generate electricity not generated from conventional sources, as defined, solely for his or its own use or the use of its tenants, or generating electricity to or for any electrical corporation, state agency, city, county, district, or an association thereof, but not the public, without becoming a public utility subject to the general jurisdiction of the PUC. Existing law requires a private energy producer to provide and to pay the total cost of the interconnection as well as any costs associated with providing a transmission capacity sufficient to handle that portion of the energy generated by the private energy producer that is over and above the capacity otherwise required by the public utility to service its utility customers and meet other authorized commitments. Existing law requires the PUC to establish equitable charges to be paid by an electrical corporation for the purchase or sale of electricity or electrical generating capacity from a private energy producer employing other than a conventional power source for the generation of electricity and to approve and establish standby charges and charges for transmission service.

This bill would require the PUC, in consultation with the Energy Commission, to streamline and simplify interconnection rules and tariffs to reduce impediments to the installation and use of combined heat and power systems by small users with systems with a peak generating capacity of one megawatt or less.

(4) Existing law relative to the restructuring of the electrical industry requires that the PUC identify and undertake those actions necessary to reduce or remove constraints on the state's existing electrical transmission and distribution system.

This bill would authorize a load serving entity to receive credit for the portion of any reduction in the emissions of greenhouse gases attributable to the ~~incidental excess~~ electricity purchased pursuant to the above-described purchase requirements, *to the extent that the aggregate statewide reduction in emissions of greenhouse gases achieved through a combined heat and power system, including early actions to reduce emissions of greenhouse gases, are credited to the combined heat and power generator.*

~~(5) This bill would require the PUC to report to the Legislature by December 31, 2008, on a proposed self-generation incentive program funding formula that includes incentives for combined heat and power systems that will result in reduced emissions of greenhouse gases.~~

~~(6)~~

(5) Executive Order S-20-04 (Green Building Order) ordered certain state entities, and requested certain other state entities, to undertake measures to reduce state building electricity usage consistent with a Green Building Action Plan, and encouraged commercial building owners, cities, counties, and schools to undertake measures to reduce electricity usage. The Green Building Order ordered that state agencies, departments, and other entities under the direct executive authority of the Governor cooperate in taking measures to reduce grid-based energy purchases for state-owned buildings by 20% by 2015, through cost-effective efficiency measures and distributed generation technologies.

This bill would declare that it is the policy of the state to reduce grid-based energy purchases for state-owned buildings by 20% by December 31, 2015, through cost effective, technologically feasible, and environmentally beneficial efficiency measures and distributed generation technologies. The bill would require state-owned buildings in operation prior to January 1, 2008, to upgrade existing systems to utilize combined heat and power systems to assist in achieving the goal of reducing grid-based energy purchases for state-owned buildings by 20% by December 31, 2015. The bill would require all state-owned buildings that commence operation after December 31, 2007, to incorporate combined heat and power systems to maximize energy efficiency whenever doing so is cost effective, technologically feasible, and environmentally beneficial. The bill would require the Department of General Services, in consultation with the Energy Commission and the ~~PUC State Air Resources Board~~, to develop a means for valuing reductions in emissions of ~~carbon dioxide and other~~ greenhouse gases

consistent with the California Global Warming Solutions Act of 2006, to be utilized in determining whether employing combined heat and power systems in any particular retrofit or new building application is cost effective, technologically feasible, and environmentally beneficial.

(7)

(6) Existing law makes any public utility, as defined, and any corporation other than a public utility, that violates or that fails to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission guilty of a crime.

Because certain provisions of the bill would require commission action to implement and violation or failure to comply with any part of any order, decision, rule, direction, demand, or requirement of the commission would be a crime, the bill would impose a state-mandated local program by creating a new crime.

(8)

(7) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

Vote: majority. Appropriation: no. Fiscal committee: yes.  
State-mandated local program: yes.

*The people of the State of California do enact as follows:*

1 SECTION 1. Chapter 8 (commencing with Section 2840) is  
2 added to Part 2 of Division 1 of the Public Utilities Code, to read:

3

4 CHAPTER 8. ENERGY EFFICIENCY SYSTEMS

5

6 Article 1. Waste Heat and Carbon Emissions Reduction Act

7

8 2840. This article shall be known and may be cited as the Waste  
9 Heat and Carbon Emissions Reduction Act.

10 2840.2. For purposes of this article, the following terms have  
11 the following meanings:

12 (a) "Baseload generation" has the same meaning as defined in  
13 Section 8340.

14 (b) "Combined heat and power system" means a system for the  
15 generation of electricity that utilizes heat both for the generation

1 of electricity and for an energy application other than the generation  
2 of electricity, that is cost effective, technologically feasible,  
3 environmentally beneficial, and meets the sizing and efficiency  
4 standards established by the Energy Commission pursuant to  
5 Section 2843.

6 (c) “Eligible customer” includes residential customers,  
7 master-meter customers serving users who are tenants of a  
8 mobilehome park, apartment building, or similar residential  
9 complex, ~~small commercial customers, and entities of state and~~  
10 ~~local government and small commercial customers.~~ The  
11 commission may order that additional categories of customers are  
12 eligible consistent with the intent of the Legislature as stated in  
13 this article.

14 (d) “Energy Commission” means the State Energy Resources  
15 Conservation and Development Commission.

16 (e) *“Excess electricity” means the net electricity exported to*  
17 *the electrical grid, generated by a combined heat and power system*  
18 *that conforms to regulations regarding appropriate sizing for*  
19 *particular applications and energy efficiency adopted by the*  
20 *Energy Commission pursuant to Section 2843.*

21 ~~(e)~~  
22 (f) “Greenhouse gas” or “greenhouse gases” includes all of the  
23 following gases: carbon dioxide, methane, nitrous oxide,  
24 hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

25 ~~(f) “Incidental electricity” means the net electricity exported to~~  
26 ~~the electrical grid, generated by a combined heat and power system~~  
27 ~~that conforms to regulations regarding proper sizing for particular~~  
28 ~~applications and energy efficiency adopted by the Energy~~  
29 ~~Commission pursuant to Section 2843.~~

30 (g) “Load-serving entity” has the same meaning as defined in  
31 Section 380.

32 2840.4. The Legislature finds and declares all of the following:

33 (a) The Energy Action Plan II, adopted by the commission and  
34 the Energy Commission, includes a “loading order” that describes  
35 the priority sequence for actions to address the state’s increasing  
36 electricity needs.

37 (b) The loading order identifies energy efficiency and demand  
38 response measures as the state’s preferred means of meeting  
39 growing electricity needs. After cost-effective energy efficiency  
40 and demand response measures, the state will rely on renewable

1 resources for the generation of electricity and distributed electricity  
2 generation, including combined heat and power applications.

3 (c) The loading order provides that to the extent efficiency  
4 measures, demand response measures, renewable resources  
5 generation, and distributed generation are unable to satisfy the  
6 state's increasing electricity and generational capacity needs, the  
7 state will support clean and efficient fossil fuel-fired generation.

8 (d) The loading order places conservation and energy efficiency  
9 measures first in the loading order, because these measures are the  
10 least expensive and most environmentally protective means to  
11 meet growing electricity demand.

12 (e) Combined heat and power systems produce both electricity  
13 and thermal energy from a single fuel input, thus achieving much  
14 greater efficiency than the usual separate systems for producing  
15 these forms of energy, *and reducing consumption of fuel.*

16 (f) Combined heat and power systems recover heat that would  
17 otherwise be wasted in separate energy applications, and use this  
18 heat to ~~displace the fuel that otherwise would be used~~ *avoid*  
19 *consumption of fuel that would otherwise be required* to produce  
20 heat.

21 (g) Combined heat and power systems recycle the valuable  
22 waste heat produced in electricity generation and use it for heating,  
23 cooling, and other useful ~~forms of energy~~ *applications.*

24 (h) Gigawatthours of potential useful electricity *and millions*  
25 *of british thermal units of thermal energy* could be derived from  
26 unused waste heat that is currently being vented into the  
27 atmosphere.

28 (i) It is the policy of the state that the conversion of waste heat  
29 to electricity or other useful energy applications, including heating  
30 and cooling, be treated as ~~an efficiency measure~~ *the preferred*  
31 *generation measure immediately following renewables, to the*  
32 *extent described in subdivision (a) of Section 2840.6,* for purposes  
33 of the loading order.

34 2840.6. (a) It is the intent of the Legislature to obtain 5,000  
35 megawatts of new electrical generation by the year 2015, while  
36 decreasing emissions of carbon dioxide and other greenhouse  
37 gases, by achieving improved efficiencies utilizing excess waste  
38 heat through combined heat and power systems.

39 (b) It is the intent of the Legislature that state policies  
40 dramatically advance the efficiency of the state's use of natural

1 gas by capturing unused waste heat, and in so doing, help offset  
2 the growing crisis in electricity supply and transmission congestion  
3 in the state.

4 (c) It is the intent of the Legislature to reduce wasteful  
5 consumption of energy through improved residential, commercial,  
6 institutional, industrial, and manufacturer utilization of waste heat  
7 whenever it is cost effective, technologically feasible, and  
8 environmentally beneficial, particularly when this reduces  
9 emissions of carbon dioxide and other carbon-based greenhouse  
10 gases.

11 (d) *It is the intent of the Legislature to support and facilitate*  
12 *both customer-owned and utility-owned combined heat and power*  
13 *systems.*

14 2841. (a) A load-serving entity shall purchase, ~~upon terms and~~  
15 ~~at rates that the commission determines to be just and reasonable,~~  
16 ~~the incidental electricity generated by eligible customers utilizing~~  
17 ~~distributed generation that employs combined heat and power~~  
18 ~~technology that comply~~ *excess electricity delivered from a*  
19 *combined heat and power system that complies* with the  
20 regulations, or interim guidelines, adopted by the Energy  
21 Commission pursuant to Section 2843, *and for a load-serving*  
22 *entity that is an electrical corporation, under the terms, conditions,*  
23 *and prices established by the commission in a standardized*  
24 *electricity purchase agreement. The existence of the electricity*  
25 *purchase agreement between a combined heat and power generator*  
26 *and the load-serving entity shall not result in either an increase*  
27 *or decrease in charges to other ratepayers or customers, as*  
28 *compared to other options for additional generation.*

29 (b) A load-serving entity may receive credit for the portion of  
30 any reduction in the emissions of greenhouse gases attributable to  
31 ~~the incidental electricity purchased pursuant to this chapter. the~~  
32 *excess electricity purchased pursuant to an electricity purchase*  
33 *agreement under this section, to the extent that the aggregate*  
34 *statewide reduction in emissions of greenhouse gases achieved*  
35 *through a combined heat and power system, including early*  
36 *actions, are credited to the combined heat and power generator.*

37 2842. (a) In determining those terms and rates that are just  
38 and reasonable pursuant to subdivision (a) of Section 2841, the  
39 commission shall do all of the following:

(1) Establish terms and rates that result in a statewide reduction in emissions of greenhouse gases ~~compared to generation of electricity from baseload generation and peaking generation units.~~ *from combined heat and power systems compared to the greenhouse gases that would otherwise have been emitted from the separate generation of electricity and thermal energy from combined-cycle natural gas powerplants and conventional thermal energy plants.*

(2) Establish time-of-use rates that encourage energy conservation and net generation of electricity during periods of peak system demand, ~~with no separate cost-based time-of-use standby charges.~~ *demand.*

(3) *Not adopt or maintain standby rates or charges for combined heat and power systems unless based upon assumptions that are supported by factual data, including any assumption that forced outages or other reductions in electricity generation by all combined heat and power systems will occur simultaneously, or during periods of peak electrical system demand, or both.*

~~(3)~~

(4) Ensure that the time-of-use rates provide additional incentives to encourage energy conservation and net generation of electricity in those areas of the transmission grid that are experiencing transmission constraints or congestion and the attendant costs.

(b) The commission, in consultation with the Energy Commission, shall streamline and simplify interconnection rules and tariffs to reduce impediments to the installation and use of combined heat and power systems by small users with systems with a peak generating capacity of one megawatt or less.

(c) The commission shall, for each electrical corporation, establish a pay-as-you-save program for combined heat and power system that does all of the following:

(1) Enables eligible customers to finance all of the upfront costs for the purchase and installation of a combined heat and power system by repaying those costs over time at the difference between what the customer would have paid for electricity and the actual savings derived by the customer.

(2) Limits eligible systems to those that are cost effective, technologically feasible, and environmentally beneficial and that

1 meet the temporary guidelines or regulations adopted by the Energy  
2 Commission pursuant to Section 2843.

3 ~~(3) Provides for notice of the contract to be provided to a~~  
4 ~~potential purchaser of the property and for assignment of the~~  
5 ~~financing agreement to a purchaser of the property.~~

6 ~~(4)~~

7 (3) Ensures that the reasonable costs of the electrical corporation  
8 are recovered.

9 (d) The commission may modify or adjust the requirements of  
10 this article for any load-serving entity with less than 100,000  
11 service connections, as individual circumstances merit.

12 2842.2. The Public Utilities Commission, in approving a  
13 procurement plan for an electrical corporation pursuant to Section  
14 454.5, shall require that the electrical corporation's procurement  
15 plan incorporate combined heat and power solutions to the  
16 maximum degree that is cost effective, technologically feasible,  
17 and environmentally beneficial, particularly as it pertains to  
18 reducing emissions of carbon dioxide and other greenhouse gases.

19 2842.4. The Public Utilities Commission shall ensure that an  
20 electrical corporation ~~utilize~~ *utilizes* long-term planning for  
21 upgrades to ~~their~~ *its* transmission and distribution systems and that  
22 any upgrades are consistent with promoting ~~distributed generation~~  
23 ~~that is combined heat and power systems that are~~ cost effective,  
24 technologically feasible, and environmentally beneficial,  
25 particularly as ~~it pertains to reducing those combined heat and~~  
26 ~~power systems reduce~~ emissions of greenhouse gases.

27 2843. (a) The Energy Commission shall, by ~~January 1, 2010~~  
28 ~~February 1, 2008~~, adopt regulations for *various applications of*  
29 combined heat and power systems that reduce waste energy, that  
30 ensure that a system is properly sized for its intended application,  
31 meets minimum efficiency standards, is cost effective,  
32 technologically feasible, and environmentally beneficial. It is the  
33 intent of the Legislature that combined heat and power systems  
34 be functionally matched to the customer's location and that the  
35 regulations do not permit de facto wholesale generators with  
36 guaranteed purchasers for their electricity.

37 (b) ~~Prior to January 1, 2010 February 1, 2008~~, the Energy  
38 Commission may adopt temporary guidelines for combined heat  
39 and power systems that reduce waste energy, that ensure that a  
40 system is properly sized for its intended application, meets

1 minimum efficiency standards, is cost effective, technologically  
2 feasible, and environmentally beneficial.

3 2844. (a) It is the policy of the state to reduce grid-based  
4 energy purchases for state buildings by 20 percent by December  
5 31, 2015, through cost effective, technologically feasible, and  
6 environmentally beneficial efficiency measures and distributed  
7 generation technologies.

8 (b) State buildings in operation prior to January 1, 2008, shall  
9 upgrade existing systems to utilize combined heat and power  
10 systems to assist in achieving the goal of reducing grid-based  
11 energy purchases for state buildings by 20 percent by December  
12 31, 2015, whenever doing so is cost effective, technologically  
13 feasible, and environmentally beneficial.

14 (c) State buildings that commence operation after December  
15 31, 2007, shall incorporate combined heat and power systems to  
16 maximize energy efficiency whenever doing so is cost effective,  
17 technologically feasible, and environmentally beneficial.

18 (d) The Department of General Services, in consultation with  
19 the Energy Commission and the ~~commission~~ *State Air Resources*  
20 *Board*, shall develop a means for valuing reductions in emissions  
21 of ~~carbon dioxide and other~~ greenhouse gases *that is consistent*  
22 *with Section 38530 of the Health and Safety Code*, to be utilized  
23 in determining whether employing combined heat and power  
24 systems in any particular retrofit or new building application is  
25 cost effective, technologically feasible, and environmentally  
26 beneficial.

27 ~~SEC. 2. The Public Utilities Commission shall report to the~~  
28 ~~Legislature by December 31, 2008, on a proposed self-generation~~  
29 ~~incentive program funding formula that includes incentives for~~  
30 ~~combined heat and power systems that will result in reduced~~  
31 ~~emissions of greenhouse gases.~~

32 ~~SEC. 3.~~

33 *SEC. 2.* It is the intent of the Legislature to establish for each  
34 electrical corporation, a variable rate program that is applicable to  
35 eligible customers with a combined heat and power system and  
36 who utilize a plug-in hybrid electric vehicle, that will encourage  
37 charging of plug-in hybrid electric vehicles during nonpeak periods  
38 of electricity usage, and that results in an overall reduction of  
39 greenhouse gases and other air pollutants emitted from both  
40 electricity generation and mobile sources.

~~SEC. 4.~~

*SEC. 3.* No reimbursement is required by this act pursuant to Section 6 of Article XIII B of the California Constitution because the only costs that may be incurred by a local agency or school district will be incurred because this act creates a new crime or infraction, eliminates a crime or infraction, or changes the penalty for a crime or infraction, within the meaning of Section 17556 of the Government Code, or changes the definition of a crime within the meaning of Section 6 of Article XIII B of the California Constitution.

O